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mental work necessary to establish the conclusions in reference to factors and adaptations remains to be done.

Under "Flora" (pp. 200), 1058 native and introduced species are enumerated, representing 435 genera and 101 families. Attention is called to the fact that the most striking feature of the flora is the large number of Gramineae, Leguminosae, and Compositae, and the almost complete absence of Coniferae, Orchidaceae, Ericaceae, and Gentianaceae. New species are described under *Physocarpus* (2) and *Vernonia* (9), and a synopsis of the latter genus appears in an appendix. Several appendices, an elaborate summary, and a very full index show a real consideration for the convenience of the reader.—J. M. C.

Irritability.—FITTING prepared, at the request of the editor of *Ergebnisse der Physiologie* in 1905 an essay entitled *Das Vorkommen von Reizleitungsvorgängen bei den Pflanzen und die Methoden zu ihrem Nachweise*, and in 1906 for the same work a second, *Der Ablauf der Reizleitungsvorgänge bei den Pflanzen*. These essays are synoptical in their character and include extensive references to the literature of the subject, with the intention that these summaries might be useful to other physiologists as a source of information and to plant physiologists might serve as a starting-point for further investigations. Inasmuch as the work in which they appeared has a rather limited circulation, especially among botanists, it seemed wise to the author to publish the two papers also as an independent physiological monograph; and in this form they do indeed make a small volume,³ which can be had at a low price and thus becomes readily available. This work puts the facts of the matter succinctly, discusses the theories of conduction critically though briefly, and therefore is likely to serve the very purpose which the author had in mind. The original separate publication has involved the retention of the bibliography in two lists, largely duplicates; but this is a small inconvenience in view of the larger service.—C. R. B.

German south-polar expedition.—Of the sumptuous quarto volumes reporting the results of this expedition in 1901-3, the seventh is devoted to botany. In the the first part, which has just been published,⁴ HENNINGS reports upon the Fungi, describing over 30 new species (2 plates); ZAHLBRUCKNER treats the lichens, among which he finds 17 new species and a new genus, *Steinera* (Lichenaceae), and takes occasion to describe more fully a number of little-known species (3 plates); SCHIFFNER lists the liverworts (of which about 40 were previously known), describing 3 new species and a new form out of the 14 collected (1 plate); BROTH-ERUS found in the collections 61 mosses, of which 14 were new (3 plates); SCHENCK reports upon the vascular plants of each island, but finds no new species.

³ FITTING, HANS, *Die Reizleitungsvorgänge bei den Pflanzen*. Imp. 8vo. pp. xvi+157. figs. 15. Wiesbaden: J. F. Bergmann. 1907. M3.60.

⁴ *Deutsche Südpolar-Expedition 1901-1903, im Auftrage des Reichsamtes des Innern, herausgegeben von ERICH VON DRYGALSKI, Leiter der Expedition*. VIII Band, Botanik. Heft 1. 4to. pp. 176. pls. 19. figs. 25. Berlin: Georg Reimer. 1906. M40.

About one-third of the volume is devoted to a discussion by Dr. E. WIRTH of the ecological aspects of the vegetation, and this is illustrated by unusually fine figures and 10 plates (half-tones and photogravures), showing the formations and some individual plants. The annual course of vegetation on Kerguelen is also treated at some length.—C. R. B.

Errera Botanical Institute.—There has come to hand the second volume of papers from this institute, two volumes of which, published earlier, were noticed in this journal recently.⁵ This volume⁶ contains several papers on nitrates and ammoniacal salts, especially in relation to yeasts and other fungi and to root-tubercles, by LAURENT and by MARCHAL; some brief notes on microscopical and bacteriological technique by ERRERA and DE WEVRE; a considerable number of papers on the occurrence, localization, and significance of alkaloids in plants by ERRERA, CLAUTRIAU, MAISTRIAU, MOLLE, DE WEVRE, DE WILDEMAN and DE DROOG; several papers on proteids by ERRERA, MARCHAL, CLAUTRIAU, and DE WEVRE. All these papers have been published before, dating from 1881 to 1904, but mostly between 1888 and 1895. The volume closes with an annotated bibliography (41 pages) on alkaloids, glucosides, and tannins, etc., brought together by ERRERA and not previously published.—C. R. B.

British vascular plants.—Messrs. JAMES BRITTEN and A. B. RENDLE have compiled a list of British seed-plants and ferns⁷ in accordance with the international rules of nomenclature adopted by the Vienna Congress. The list is most timely and will prove a great convenience to students of the British flora. The British systematists are now in a condition of most enviable uniformity as to nomenclature, evidently having taken part in the Vienna Congress in the expectation of abiding by its decisions, and giving up, for the sake of harmony, even so cherished a custom as using the specific name first employed in the genus accepted. If our own flora were not so extensive, and if our own systematists were content to waive individual opinions that did not happen to be accepted by the Congress, such a working-list might be prepared for this country.—J. M. C.

NOTES FOR STUDENTS

Items of taxonomic interest.—L. M. UNDERWOOD (Bull. Torr. Bot. Club 33: 591-605. 1906) has revised the American species of *Stenochlaena*, 12 being recognized and 3 new ones described.—W. H. BLANCHARD (*Torreya* 7: 7, 8. 1907) has described a new *Rubus* (blackberry) from Mass. and R. I.—A. W. EVANS (*Bryologist* 10: 24-30. 1907) discusses and approves the reasons assigned by

⁵ BOT. GAZETTE 43: 215. 1907.

⁶ Recueil de l'Institut Botanique (Université de Bruxelles) publié par L. ERRERA. Tome II. Imp. 8vo. pp. xii+415. *pls.* 4. *figs.* 3. Bruxelles: Henri Lamertin. 1906. *fr.* 20.

⁷ List of British seed-plants and ferns. Department of Botany, British Museum (Natural History). pp. 40. Published by the Trustees of the British Museum. 4d.